

REMARKS

INTRODUCTION

In accordance with the foregoing, claims 4, 9, 14, 19, 24, and 29 have been canceled, and claims 1-3, 5-8, 10-13, 15-18, 20-23, 25-28, and 30 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-3, 5-8, 10-13, 15-18, 20-23, 25-28, and 30 are pending and under consideration. Reconsideration is respectfully requested.

CLAIM OBJECTIONS

In the Office Action at page 2, numbered item 3, claims 6, 16, and 26 were objected to because of informalities. Applicant respectfully submits that claims 6, 16, and 26 have been amended to correct the informalities noted by the Examiner. Accordingly, the outstanding objections to claims 6, 16, and 26 should be resolved.

CLAIM REJECTIONS UNDER 35 U.S.C. §101

In the Office Action at pages 2-3, numbered item 4, claims 1-10 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. This rejection is traversed and reconsideration is respectfully requested. Claims 4 and 9 have been cancelled. Claims 1-3, 5-8, and 10 have been amended to recite that the method is "computer-implemented." In view of these claim amendments, Applicant respectfully submits that claims 1-3, 5-8, and 10 are directed to statutory subject matter.

In the Office Action at page 3, numbered item 4, claims 11-20 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. This rejection is traversed and reconsideration is respectfully requested. Claims 14 and 19 have been cancelled. Claims 11-13, 15-18, and 20 have been amended to recite that the medium is a "computer-readable storage medium." In view of these claim amendments, Applicant respectfully submits that claims 11-13, 15-18, and 20 are directed to statutory subject matter.

REJECTION UNDER 35 U.S.C. §102

In the Office Action at pages 3-8, numbered item 6, claims 1-30 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,308,316 to Hashimoto, et al. ("Hashimoto"). The reasons for the rejection are set forth in the Office Action and therefore not

repeated. The rejection is traversed and reconsideration is requested.

Amended independent claim 1 is directed to a computer-implemented method of calculating a parallel efficiency of a parallel computer system in which no load imbalance exists.

Amended independent claim 1 recites, in part:

obtaining and storing into a storage a first value concerning a processing time for a portion to be sequentially processed during an execution of a parallel processing program, a second value concerning a processing time for a portion to be parallel processed during the execution of said parallel processing program, and a third value concerning a processing time caused by an overhead for parallel processing from a result of one measurement for said parallel computer system.

Amended independent claim 1 also recites "calculating and storing into said storage a parallelized rate, a sequential calculation time ratio that is defined as a ratio of said first value to a value concerning a total processing time during the execution of said parallel processing program, and a parallel overhead ratio by using said first value, said second value, and said third value" and "calculating and storing into said storage a parallel efficiency by using said parallelized rate, said sequential calculation time ratio, and said parallel overhead ratio."

Independent claims 11 and 21 have been amended to recite similar features.

At page 4 of the outstanding Office Action, the Examiner asserts that Hashimoto teaches the third value concerning a processing time caused by an overhead for parallel processing, and cites col. 8, lines 36-38, which state "The load balance will be explained. In the parallel processing, the balance of the load applied to the processors influences performance."

Applicant respectfully disagrees. As amended, independent claim 1 recites that "a computer-implemented method of calculating a parallel efficiency of a parallel computer system in which no load imbalance exists." Thus, according to amended independent claim 1, no load imbalance exists. As the load imbalance is not considered in amended independent claim 1, Applicant respectfully submits that the Hashimoto fails to teach or suggest the "third value concerning a processing time caused by an overhead for parallel processing from a result of one measurement for said parallel computer system," as recited in amended independent claim 1.

In the Office Action at page 4, the Examiner asserts that Hashimoto teaches a "parallel-to-serial speed ratio" at col. 9, lines 41-46. Applicant respectfully disagrees. Independent claim 1 has been amended to define the sequential calculation time ratio as "a ratio of said first value to a value concerning a total processing time during the execution of said parallel processing program." Applicant respectfully submits that Hashimoto fails to teach or suggest this definition of a sequential calculation time ratio. Rather, the equation in col. 9, line 45 of Hashimoto indicates a different ratio.

Additionally, the Examiner asserts that Hashimoto teaches a parallel overhead ratio and cites col. 8, lines 48-52 of Hashimoto in support of this position. Applicant respectfully disagrees. As previously asserted, the present invention is directed to a parallel computer system in which no load imbalance exists. Hashimoto, in contrast, provides an equation for expressing the load balance at col. 8, line 51.

For at least these reasons, Applicant respectfully submits that Hashimoto fails to teach or suggest all of the features of amended independent claim 1 and, therefore, amended independent claim 1 and claims 2, 3, and 5-8, which depend either directly or indirectly therefrom, patentably distinguish over the prior art and are in condition for allowance. As amended independent claims 11 and 21 recite features similar to those of amended independent claim 1, Applicant respectfully submits that amended independent claims 11 and 21, and those claims depending either directly or indirectly therefrom, patentably distinguish over the prior art for similar reasons as amended independent claim 1 and, therefore, are in condition for allowance.

Regarding amended dependent claims 6, 16, and 26, the Examiner asserts that FIG. 14A of Hashimoto teaches the parallel efficiency. Applicant respectfully disagrees. FIG. 14A of Hashimoto fails to teach or suggest the relationship between the parallelized rate, the sequential calculation time ratio, and the parallel overhead ratio, as set forth in claims 6, 16, and 26. For this reason, and those set forth above, Applicant respectfully submits that Hashimoto fails to teach or suggest all of the features of amended dependent claims 6, 16, and 26. Accordingly, claims 6, 16, and 26 patentably distinguish over the prior art and are in condition for allowance.

In the Office Action at page 6, regarding dependent claims 8, 18, and 28, the Examiner asserts that Hashimoto "discloses a step of analyzing contribution of said parallelized rate, said sequential calculation time ratio, and parallel overhead ratio toward said parallel efficiency," and cites col. 9 at lines 54-55 of Hashimoto in support of this assertion. Applicant respectfully disagrees. Hashimoto fails to teach or suggest the relationship and contribution of the parallelized rate, the sequential calculation time ratio, or the parallel overhead ratio toward the parallel efficiency. For this reason, and those set forth above, Applicant respectfully submits that Hashimoto fails to teach or suggest all of the features of amended dependent claims 8, 18, and 28. Accordingly, claims 8, 18, and 28 patentably distinguish over the prior art and are in condition for allowance.

Amended independent claim 10 is directed to a computer-implemented method of calculating a parallel efficiency of a parallel computer system in which no load imbalance exists. Amended independent claim 10 recites, in part:

obtaining and storing into a storage, a first value concerning a processing time for a portion to be sequentially processed during an execution of a parallel processing program, a second value concerning a processing time for a portion to be parallel processed during the execution of said parallel processing program, and a third value concerning a total processing time for said parallel processing program.

Amended independent claim 10 also recites "calculating and storing into said storage a parallelized rate by using the obtained first value and the obtained second value" and "calculating and storing into said storage a product of an inverse of said parallelized rate, an inverse of said third value, and said second value as a parallel efficiency." Independent claims 20 and 30 have been amended to recite similar features.

At page 8 of the Office Action, the Examiner asserts that FIG. 14A of Hashimoto teaches "calculating a product of an inverse of said parallelized rate, an inverse of a value of said third information and said second information as a parallel efficiency." Applicant respectfully disagrees and asserts that Hashimoto fails to teach or suggest "a product of an inverse of said parallelized rate, an inverse of said third value, and said second value as a parallel efficiency," as recited in amended independent claim 10. As amended, claim 10 indicates not only the parallel efficiency, but the use of the equation for the parallel efficiency, as well.

For at least this reason, Applicant respectfully submits that Hashimoto fails to teach or suggest all of the features of amended independent claim 10 and amended independent claims 20 and 30, which recite similar features. Accordingly, Applicant respectfully submits that amended independent claims 10, 20, and 30 patentably distinguish over the prior art and are in condition for allowance.

CONCLUSION

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

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There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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